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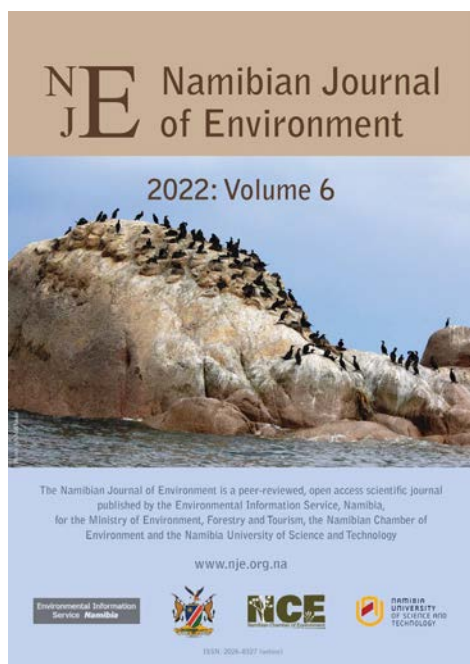
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SECTION A: RESEARCH ARTICLES

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Media coverage of climate change in Namibia and South Africa: A comparative study of newspaper reports from October 2018 to April 2019

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ABSTRACT

Climate change is among the global issues that have permeated the media agenda, yet studies on climate crises have mostly focused on Western media. Less in-depth analysis has been conducted in developing countries that are extremely subject to climate change and where awareness and adaptation will be more pressing than reducing emissions. This study presents a comparative content analysis of newspaper coverage of climate change in southern Africa from October 2018 to April 2019; a critical period when significant events conjoined to raise the need to tackle climate breakdown globally. The analysis included 108 newspaper articles published in English by news media in Namibia and South Africa that have a significant influence on policymakers and present global and local coverage of climate change. The assessment included news articles from The Namibian, Windhoek Observer, Cape Argus, and Sunday Times. Data were collected and analysed using content discourse analysis. The study found that articles are frequently sourced from foreign news agencies. Significant international and local events like Cyclone Idai and the United Nations Climate Change Conferences (COP24 – Katowice) strongly influenced the reporting of climate change in southern Africa, and dominant climate change thematic frames and linguistic repertoires were used to discuss the climate crises. The discussions of global warming were framed around public opinion (civil/protest) while small actions and alarmist were mostly used as linguistic repertoires in reporting climate change. The causes and effects of climate change are discussed with alarm, while mitigations and measures are reported as small actions. Reporters frequently used adjectives such as no tomorrow, extinction, and heatwaves to warn the public about the severity of climate change. The study strongly suggests a need for reporters to widen local report sourcing and to strike a balance in framing climate change news while not undermining the seriousness of global warming. It is important to balance warning journalists about alarmist reporting and not underestimating the severity of climate change. Journalists and editors who are trained in environmental journalism may better report on climate change.

Keywords: climate change; coverage; linguistic repertoires; Namibia; newspapers; South Africa; thematic frames

INTRODUCTION

Exceeding the 1.5 °C warming threshold would impact the planet, according to the 2018 special report by the Intergovernmental Panel on Climate Change (IPCC). The projection of global warming at 1.5 °C, and 2 °C or higher shows that vulnerable countries in southern Africa are likely to get hotter, drier and more water-stressed (IPCC *et al.* 2018). Developing countries and the industrialised world seek to tackle climate change to avoid future adverse effects. Creating awareness of environmental issues to influence policymakers and the public to combat climate change is becoming crucial in this climate change era (Tagbo 2010, Boykoff & Luedecke 2016, Chand 2017). According to Barkemeyer *et al.* (2017), existing effective measures to mitigate climate change are only growing with public awareness across the world. There has been a massive increase in media attention to tackle climate change worldwide recently (Shanahan 2013). Furthermore, a

study by Tagbo (2010) stressed the necessity for better communication with policymakers about climate change. Influencing to create suitable legislation and adaptation strategies through media coverage is important.

Even though the climate crisis is a worldwide phenomenon that affects societies around the world, studies have mostly focused on climate change media discourse for developed countries as argued by Boykoff (2007, 2008, Boykoff & Luedecke 2016). Consequently, few in-depth analyses on climate change discourse have been done in the countries that are currently impacted by global warming and where awareness and adaptation are more pressing than reducing emissions (Tagbo 2010, Shanahan 2013, Barkemeyer *et al.* 2017). Many studies represent loosely the concept of framing and explicitly define their theoretical approach and analytic method of examining the framing of climate change (Boyd 2015, Schäfer & O'Neill 2017). Consequently, far

too many news media in Africa depend on foreign media sources placing a huge constraint on the opportunities for participation in combating the local impact of climate change in Africa (Boykoff 2007, Tagbo 2010, Batta *et al.* 2013). Sourcing information from across southern African regions would provide opportunities for the public to relate their climate change experiences. Newspapers will be able to document what individuals and groups need to do to deal with climate change at a local and regional level. This study addressed these gaps by providing a comparative content analysis of media coverage in South Africa and Namibia from October 2018 to April 2019 and argued the effort to improve climate change journalism. The study further explored how climate change is being communicated and discussed in newspaper articles, the origin of news sources of information on climate change published in southern Africa newspaper articles, climate change trends, dominant thematic frames, and linguistic repertoires. The study found that climate change was poorly reported in southern Africa's newspapers despite awareness and adaptation being crucial as the effect of climate change was projected to be more severe in the region. Half of the newspaper articles were based on stories that were originally produced and circulated by other foreign news agencies with neither a local nor regional context.

METHODS

Sources

Newspapers from South Africa and Namibia were studied because these countries have a comparable degree of vulnerability to the consequences of climate change (United Nations Environment Programme 2018). The two southern African countries have been faced with water scarcity due to prolonged droughts, providing a good case for a comparative study (Ruppel & Ruppel-Schlichting 2016, United Nations Environment Programme 2018). Namibia and South Africa have similar newspaper ownership. The print media system in both countries varies significantly, for instance, South Africa's newspaper ownership is more corporate with media controlled by big firms, while Namibia has independent journalist trusts and state-owned companies. Two newspapers were chosen from each country, including one daily and one weekly newspaper to represent the diversity of newspaper types. Newspapers were selected based on their circulation, quality of reporting, and global and local coverage of climate change. For Namibia The Namibian (daily) and Windhoek Observer (weekly) newspapers were selected. The Namibian has been the country's largest-selling and most influential independent national English newspaper since 1985 that covers national and international news (The Namibian 2019). Windhoek Observer is the oldest

and largest circulating weekly newspaper in Namibia. For South Africa Cape Argus (daily) and Sunday Times (weekly) newspapers were chosen. Sunday Times is the most prominent weekly South Africa Sunday newspaper. Sunday Times distributes newspapers all over South Africa, including bordering countries like Lesotho, Botswana, and Swaziland (Sunday Times 2019). On the other hand, Cape Argus is a local newspaper in Cape Town (Brand South Africa 2013). Although it is a local paper, it also covers national news including environmental problems (Whitfield 2019), creating a basis for how local newspapers cover local news related to climate change, making it a perfect choice for this study.

Data collection

The study included all newspaper articles concerning the climate crisis from 1st October 2018 to 30th April (7 months). The timeframe was considered significant as events conjoined to raise the visibility of climate change issues and the need for solutions. Special events range from the release of the Intergovernmental Panel on Climate Change (IPCC) special report in 2018 and the United Nations Climate Change Conferences (COP24 – Katowice) to cyclone Idai and the then 16-year-old Swedish activist Greta Thunberg, who inspired the climate emergency strikes. In addition, the prolonged drought in southern Africa gave cause for concern.

Newspaper articles were accessed online from newspaper archives and newspapers' website search engines (for those newspapers without archives). Keywords searches were conducted using the newspapers' online search engines. Recommended keywords from a study undertaken by Boykoff (2007 p. 1194), and Schmidt *et al.* (2013) were adapted as search terms. The keywords included climate change or disaster, warm, heat, cool, greenhouse effect, global/earth/world warming, and temperature rise/decrease. The research added additional key terms such as IPPC, drought, and cyclone while key terms synonyms such as climate breakdown, climate change and/or global warming were used between October 2018 (IPCC report publication noted) to December 2018 (COP24 noted) and from January 2019 (its first date of publication) to April (last date of publication) for all newspaper outlets. IPPC report and UNFCCC COP24 and their full name were also used as keywords. This created a broad search string which enhanced the search, providing better coverage of the targeted sample size than other studies.

A reference to climate change is present when: a) the keyword climate is connected with words such as change, emergency, crisis, breakdown, development, warming, cooling; b) synonyms such as greenhouse effect, global warming and global heating or c) when

Table 1: Southern African newspapers used as sources of newspaper articles used in the study.

Newspaper	Newspaper website URL	Publication frequency	Number of articles
Windhoek Observer	https://www.observer.com.na	Weekly	10
The Namibian	https://www.namibian.com.na	Daily	34
Cape Argus	https://www.iol.co.za/capeargus	Daily	30
Sunday Times	https://www.timeslive.co.za/sunday-times	Weekly	34

extreme events or temperature change were discussed (Schmidt *et al.* 2013). A pilot study was done to validate the method through selected newspapers from each country and conducted key terms search created by Schmidt *et al.* (2013).

The articles were downloaded and sorted according to relevance (climate change) and publication date (October 2018-April 2019). A total of 108 articles referring to climate change were sourced, as shown in Table 1. The newspaper article links were copied to a Microsoft word document on OneDrive for further review as well as to check for duplicates. The articles were downloaded and noted for further review. Articles were also printed to make it easier to read, analyse and double-check for duplicates. As per Coventry University research ethics requirements, this study was approved before data collection.

Data analysis

The first assessment examined the trend of climate discourse from October 2018 to April 2019. This assessment compared the monthly trends in climate change coverage for the four newspapers. The study adopted an approach used by Boykoff (2008) and Chand (2017) to determine the total proportion of climate change articles published per month:

$$\frac{\text{No of articles published per month with reference to climate change}}{\text{Total proportion of all articles published in a specific month}}$$

$$\times 100 = \text{Coverage per month.}$$

A line graph was plotted in Microsoft Excel to compare climate change coverage trends for each month. The most challenging part was counting articles manually from the website search engines for newspapers with online archives. The newspaper information centres were contacted by mobile to provide newspaper articles archives, but they had no track of the total number of articles published monthly. Therefore, for newspapers without archives, the research counted one by one to attain the total proportion of articles published per month. The research counted more than two times for validation.

Moreover, two content-coding strategies were used, focusing on thematic frames and linguistic repertoires. Initially, newspaper articles were downloaded using NVivo capture and coded in NVivo software to understand qualitative content such as linguistic reporters and thematic frames. Then, qualitative data were coded in Microsoft Excel from NVivo for analysis using pivot charts and tables to produce quantitative data in charts and graphs.

Thematic frames analysis

According to Erlickyte (2014), the way the climate crisis is framed in media influences the opinion and attitudes of readers. Assessing thematic framing is crucial. In this study, climate change thematic frames were analysed using a content-oriented frame (manual deductive framing approach) because it is suitable for medium to extensive studies (Boyd 2015, Schäfer & O'Neill 2017).

A list of questions suggested by Semetko and Valkenburg (2000 p. 100) as cited by Erlickyte (2014), were used to identify thematic frames in each newspaper article. Furthermore, five thematic framesets well-known in literature were adapted as a guide. The thematic frameset consists of conflict, human interest, responsibility, morality and economic consequences, as illustrated by (Trumbo 1996, Takahashi 2011, O'Neill *et al.* 2015, Brüggemann & Engesser 2017, Schäfer & O'Neill 2017). Since the preceding studies failed to demonstrate assessment of articles with different structures, the research adopted a process from (Stoddart *et al.* 2016 p. 222) with editions tailored to this study.

1. Ecological/Wildlife – focus on the natural environment and how climate crisis impacts wildlife or the ecological system.
2. Policymaking – includes government policies, laws, strategies, and projects to mitigate climate breakdown.
3. Economic/Agriculture – entails financial costs of climate breakdown impacts and responses as well as climate change impacts on agriculture.
4. Culture/fashion/lifestyle – focus on the impact of people's lifestyles on climate change, or popular culture (celebrities, fashion, or artists) in relation to the climate crisis. Also emphasises actions for tackling global

- warring through lifestyle changes like vegan diets and recycling in the fashion industry.
5. Extreme events – focus on extreme events and their impact on the people and their livelihood, for example droughts or cyclones.
6. Civil society and conflict – entail public opinions or public debate about the cause, effect, and mitigations of climate change. Climate change campaigns, protests, or activities by activists, non-governmental organisations, and experts.
7. Social – focus on climate crisis social impacts and health impacts.
8. Water – emphasis on the impact of climate change on water-related issues or water-climate change nexus.
9. Technology – looked at the development and application of new and smart technology to mitigate climate change, for example electric cars.

Each article was assigned to a thematic frame that best represented the climate change discussion in the article, in order of importance. Where an article contained more than two themes, the most dominant setting was assigned. This was determined by reviewing the entire article.

Climate change linguistic repertoire analysis

Ereaut and Segnit defined climate change linguistic repertoires as styles and registers of reporting that represent various versions of what might be viewed as “common sense” or “different ways of making sense of the world” (Ereaut & Segnit 2006 p. 12). Climate repertoires can also be used as a framework for interpretation and decision-making (Ereaut & Segnit 2006). As a result, an assessment framework from (Ereaut & Segnit 2006, and Erlickyte 2014) was used to analyse how linguistically the media portrays climate change. The most common adjectives, phrases, and metaphors were considered to get a better picture of how the climate crisis is described linguistically in the media. The climate repertoires listed below were used:

1. Alarmist – Distinguished by using extreme and inflated words to portray climate change impacts such as “it’s too late” and or “it is the end of the world”.
2. Settlers – Denies climate change existence by rejecting and mocking the discourse of alarmists.
3. Comic nihilism – Denial of climate change seems less aggressive than that of the settlers. It is a British trait of self-mocking and contrary, dealing with adversity and threat by use of humour. It can be referred to as British Comic nihilism.
4. Rhetorical Scepticism – Portrays the green movement as illogical and supports “free market protection”.

5. Small actions – These can be personal or corporate actions to tackle climate change. It includes things like “10 things you need to do to save the planet” and is commonly placed alongside alarmism
6. Expert denials – Scientists slow down the debate on climate change on their terms, with concepts such as “warming is good”, backing it up with scientific data and statistics. Portrays climate change as inevitable and having potential benefits.
7. David and Goliath – Imply that even a small number of people can mitigate climate change.

The legitimacy of newspaper articles

The authors of the published climate change news articles were scrutinised for credibility and authentication. The credibility of the report was determined by looking at how many articles were published by qualified and experienced climate change reporters. The author’s name and profile, as well as the source of the information cited by the author of the articles, were the primary focus of the investigation. Articles published by unknown authors were referred to as unnamed authors, while articles copied from other news outlets or news agencies were referred to as imported authors. There is no specific method for assessing news media credibility in the literature, but Tagbo (2010) takes a similar approach.

RESULTS

Newspaper coverage of climate change in southern Africa

Overall, newspapers covered climate change differently, but there were some similarities. From March to April 2019, all newspapers reported an increase in coverage of the impact of global warming, which shaped local news. Weekly newspapers (Windhoek Observer and Sunday Times) had narrow coverage, while daily newspapers (The Namibian and Cape Argus) had wider coverage, as shown in Figure 1. These trends were expected, given the differences in the size of daily and weekly newspaper publications. As illustrated by Figure 1, the trends in climate change reporting stood at a low percentage with 5.4% (Windhoek Observer), 2.4% Sunday times, 1.7% Cape Argus and 0.3% (The Namibian). Windhoek Observer showed the highest climate crisis coverage compared to other newspapers with 14.28%, peaking in 2018. On the other hand, Sunday Times had an interesting trend as coverage gradually rose from October 2018 to January 2019 and saw a drastic fall in March and a rise in April (see Figure 1). The Namibian had the lowest peak not exceeding 2% having a similar trend to Cape Argus.

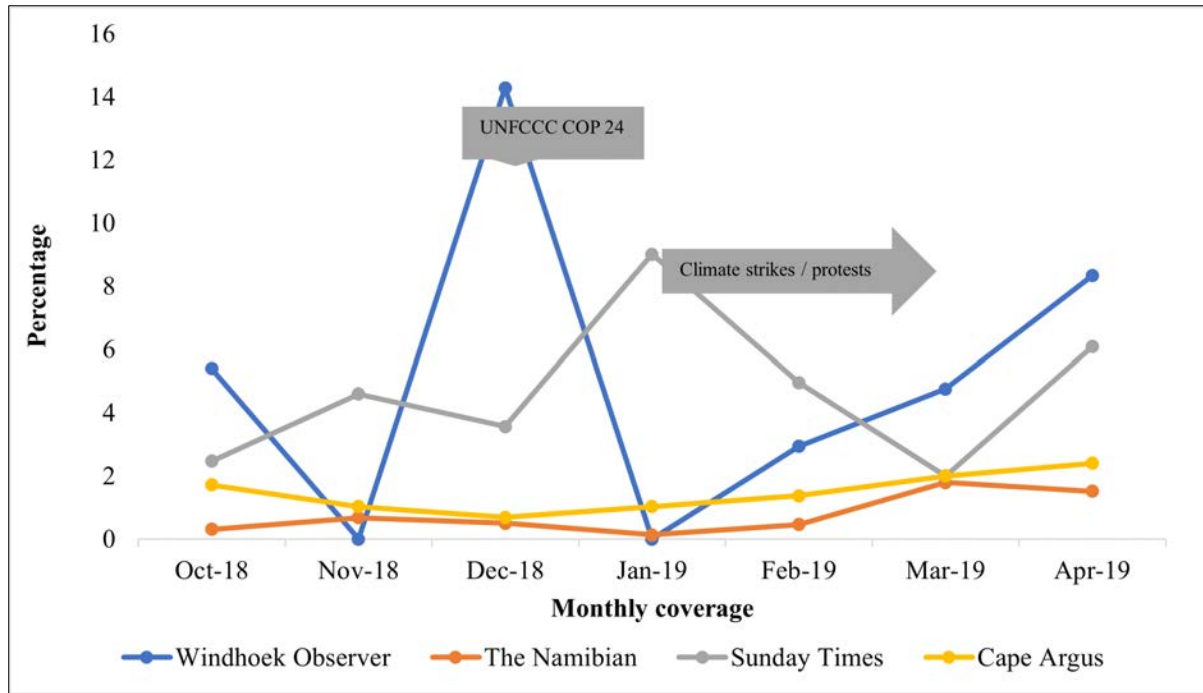


Figure 1: Monthly climate change newspaper reporting trends between October 2018 to April 2019 in Namibia and South Africa's newspapers outlet.

Climate change thematic frames discourse

The assessment included a total of 108 articles, with sixty-four (64) from South Africa and forty-four (44) from Namibian news outlets as illustrated in Table 1. Ten (10) articles are from Windhoek Observer, 34 articles are from the The Namibian, 30 articles are from the Cape Argus, and thirty-four articles are from the Sunday Times website (see Table 1).

The climate crisis in Namibia is mostly framed based on the civil/protest thematic frame, dominant in both The Namibian and Windhoek Observer, found in (14/44 articles), as illustrated in Table 2. The second most prevalent thematic frames employed in The Namibian were economic & agriculture seen in 8/44 articles and policymaking framed in 7/44 articles. Even though the impact of climate change on the environment is prevalent in Namibia, none of the articles in the country's newspapers used the ecological/wildlife thematic frame. This could be

because the most prominent themes in the articles, such as civil, economic, or agricultural, overshadow most thematic frames. For example, Namibia experienced a prolonged drought from February 2019 to the present, affecting water availability; as a result, some water themes are framed in terms of agriculture, with a focus on how water scarcity affects agricultural activities. Portraying agriculture is the dominant theme in the articles like the 08 March article in The Namibian newspaper (see Figure 2).

On the other hand, the most prevalent thematic frame in South African newspapers (Cape Argus and Sunday Times) was civil/protest with (11 out of 64 articles), which is also a similar high thematic trend in Namibia. The next prominent themes used were water (9/64 articles) and ecological/wildlife (9/64 articles) with stories oriented toward the effect of climate change on water sources and ecologic systems or wildlife. In Cape Argus, a hashtag (#) was created to report a series of water challenges due to

Table 2: Dominant thematic frames employed by newspaper outlets in southern Africa.

Dominant frame	Namibian newspapers		South African newspapers		Number of articles
	Windhoek Observer	The Namibian	Sunday Times	Cape Argus	
Civil/protest	4	10	8	3	25
Culture/lifestyle	0	0	7	0	7
Ecological/wildlife	0	0	4	5	9
Economic/agriculture	1	7	5	1	14
Extreme events	0	2	1	2	5

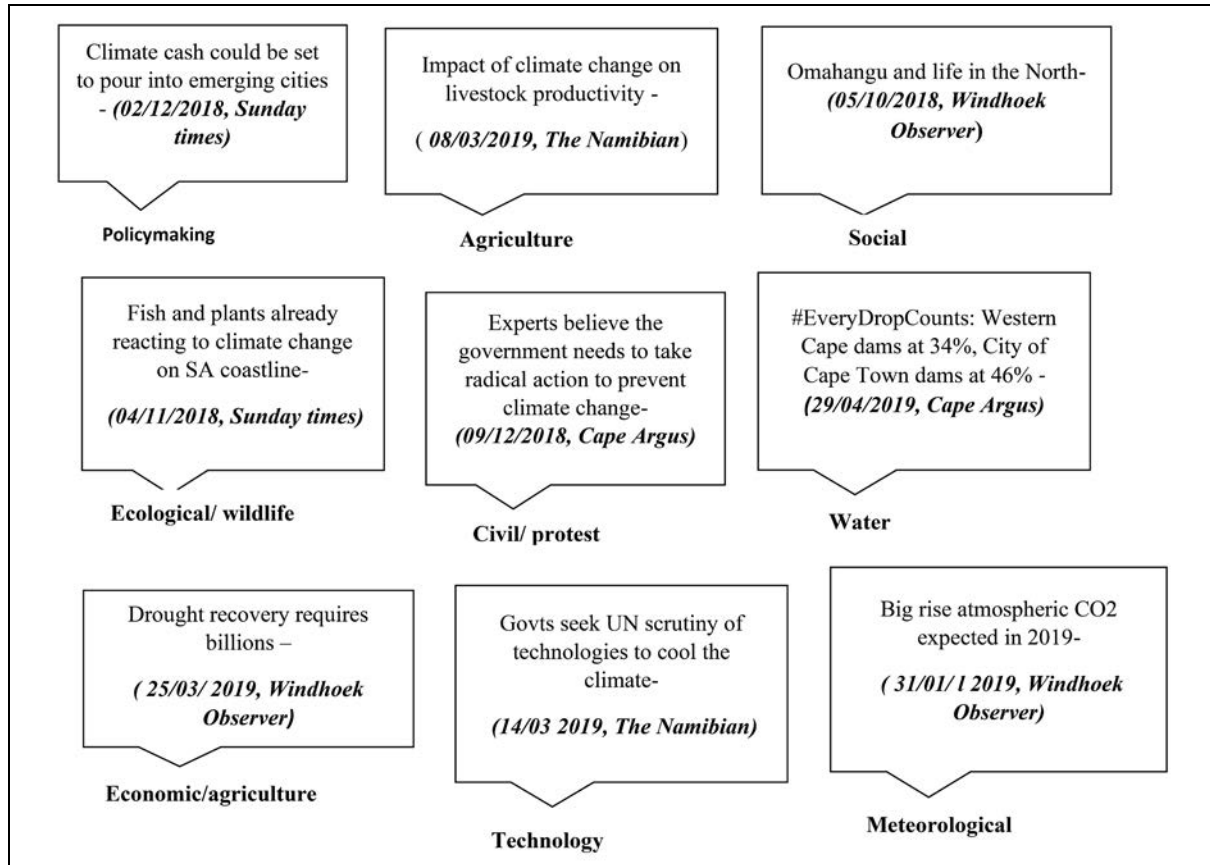


Figure 2: Thematic frames evident in the South African media outlets (*Sunday Times* and *Cape Argus*).

climate change (see example in Figure 2). Examples of articles characterised by the water theme include: “every drop counts” (*Cape Argus*). By illustration, an interesting article was also found in *Sunday Times* (see Figure 2). Interestingly, all thematic themes are employed in South African newspapers unlike in Namibia.

Climate linguistic repertoires discourse

The outcomes are based on linguistic repertoires adapted from (Ereaut and Segnit 2006 p. 12; Erlickyte 2014). This section provides an overview of the most important keywords, metaphors, adjectives, and other linguistic features found in the articles. As illustrated in Figure 3, three climate repertoires were practised in Namibia namely small actions, alarmist, and techno-optimism. Small actions was the most prominent employed in 44% of the articles in *The Namibian* newspaper while in *Windhoek Observer* it was 60% of the articles. The next most common repertoire is alarmist found in 38% of the articles in *The Namibian* newspaper and 40% in *Windhoek Observer* (Figure 3). The *Namibian* newspaper also practised techno-optimist; which was evident in 18% of the articles. Examples of linguistic repertoires used are illustrated in Figure 4. Words like biggest rise, huge, and severe are common in alarmist articles, describing the

magnitude of global warming’s impacts. Extreme events, such as drought, were frequently described as persistent. While the articles with small actions have one thing in common, it is that they show how cooperates and organisations provide funds or aid for climate change programs (see Figure 4). Adjectives such as green bond and sustainable projects were used to describe the funds and the programs and projects funded. The small number of articles published by *Windhoek Observer* (weekly) newspapers may have contributed to the lack of diversity in the newspapers’ climate lexicon, as only ten articles were linked to climate change between October 2018 and April 2019.

When it comes to South African newspapers, three climate repertoires are dominant. As shown in Figure 4, The most frequent one is alarmist which is quite different from what is frequently practised in Namibia. *Cape Argus* fairly employed three climate repertoires with each repertoire covering a quarter or more of the pie chart (see Figure 4). This is interesting as none of the newspapers in Namibia practised it. On the other hand, *Sunday Times* news outlets are more diversified compared to *Cape Argus*, *The Namibian*, and *Windhoek Observer*. *Sunday Times* employed alarmist (47%), small actions (32%), techno-optimism (18%) and expert denial (3%) respectively. Expert denial, despite being the

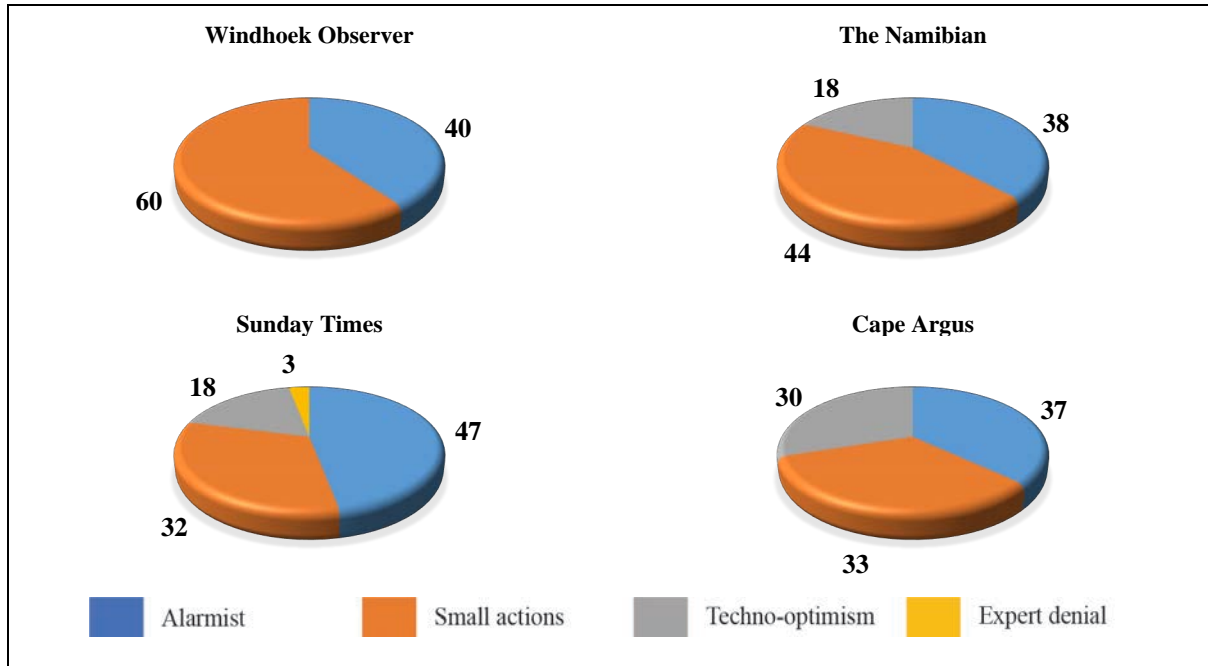


Figure 3. Linguistic repertoires employed in articles about climate change by selected newspapers from Namibia and South Africa. Values are percentages.

only different climate repertoire used in four newspaper outlets (see Figure 4), showed how experts blame the impact of the flood on a governments failure of proper planning. Experts claimed that climate change should not be used as a “cop-out” for poor planning or inadequate governance. They further backed their argument with scientists stating that the calculations of the rainfall and assessment of the most recent global climate models showed that it was too early to attribute the floods to climate change. Examples of climate repertoires discussed in Cape Argus and Sunday Times are shown in Figure 4.

What are the sources and authors of climate-related articles in southern Africa?

This section focused on the source of the information reported and the author’s ability to relate it to climate change at the local, regional, and local levels. The author’s profile was reviewed to determine whether the authors have the necessary qualifications or experience to report on climate change. The references cited by the authors in the articles were checked for plagiarism.

In the analysed articles from two Namibian newspapers, only six per cent of the articles were written by authors with their names indicated. The remaining were either written by an unknown or unnamed author or the third-party source of information indicated as the author, raising a question of the ability and confidence of the local authors to report comprehensive climate crisis news. Absalom Shiwedha, the solely identified journalist for wildlife

and environment at The Namibian newspaper, accounted for 6% of the climate change-related articles. It was confirmed through a telephone call that he had no university qualification on the topic, and he has subsequently left the company. Consequently, half of the articles (50%) published by The Namibian newspaper and 40% by Windhoek Observer were copied and pasted from secondary sources and reported without relating it to a local or regional context. These articles were frequently sourced from Namibia Press Agency which published articles reported by BBC News, Reuters, Apo Group, Agency France-Presse (AFP), Thomson Reuters Foundation, and Xinhua news.

When it comes to South Africa, authors who report on climate change were quite different from Namibia. Named authors from Cape Argus and Sunday times are responsible for 36.5% and 26.5% of global warming coverage, respectively. However, none of the authors specialised in reporting environmental or climate change reporting by qualification. On the other hand, 27% of climate change coverage in Sunday Times was imported from other news media. Just moderately different to the neighbouring country Namibia, sources such as AFP-Relax news and AFP were referenced. However, the style of taking materials from other news agencies is similar.

DISCUSSION

Climate change coverage trends

The climate change trend analysis allowed a closer look at coverage of climate newspaper discourse in

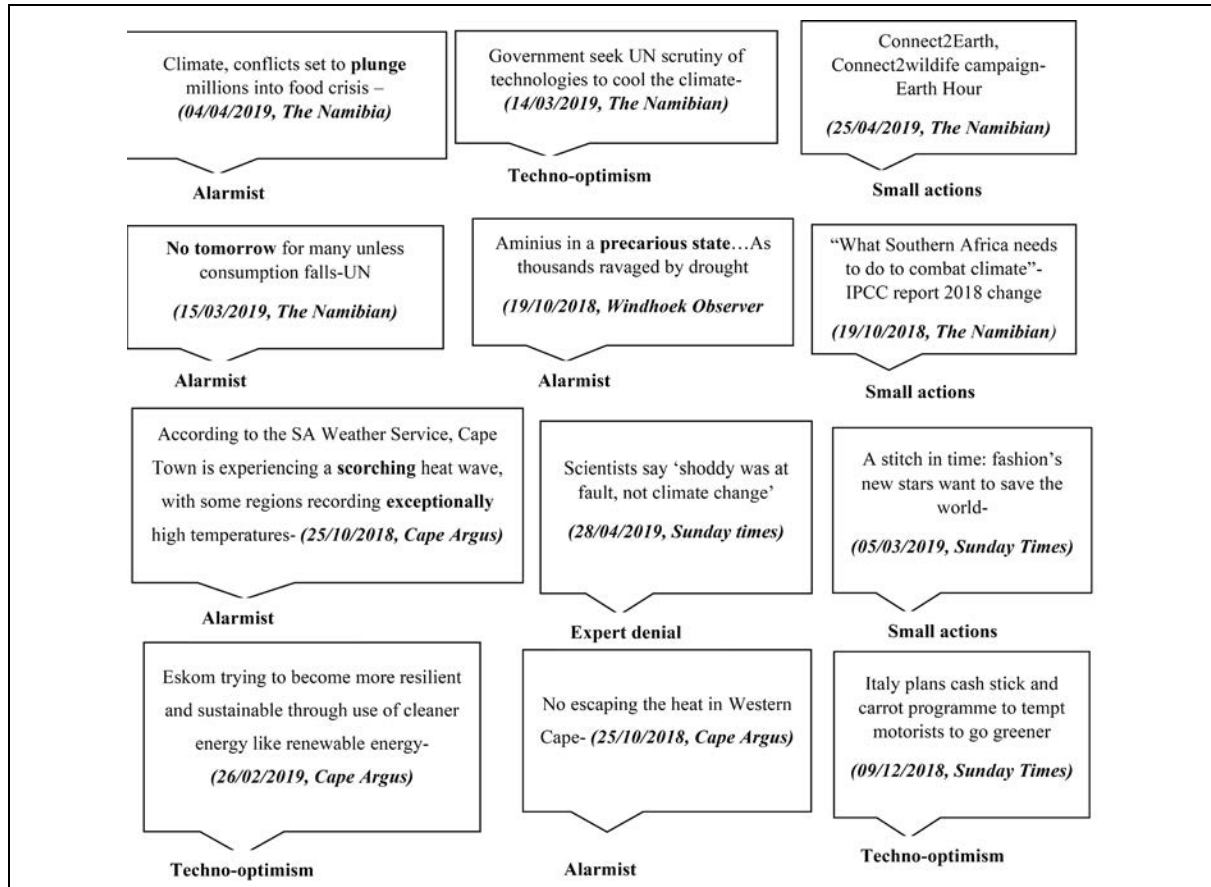


Figure 4: Examples of climate repertoires practised used in Namibian and South African news outlets.

Namibia and South Africa from October 2018-April 2019. Climate change coverage fluctuations were driven by different events with different attention levels such as IPCC reports, UNFCCC COP24 or local extreme events such as drought. Climate change coverage was narrower and steeper in weekly newspapers such as Windhoek Observer and Sunday Times than in daily newspapers (The Namibian and Cape Argus). However, claiming that weekly newspapers have better climate change trends is naive, as other factors such as the total number of articles published per month may come into play. According to trends and the evidence from the analysed news outlet, the impacts of climate breakdown drive and influence the newspapers’ coverage. Climate change coverage trends fluctuated and reached a peak during specific events that occurred. According to Schmidt *et al.* (2013), fluctuating newspaper coverage is “typical.” Peaks were observed in this case during the month (December 2018) when the UNFCCC COP24 was held, as well as when activists or protesters worldwide went on strike in response to the climate crisis. Following such events, there is likely to be a lot of media debate about the outcomes, which increases climate change discourse. The study’s findings are consistent with trends discovered by other researchers (Chand 2017). These trends can be seen in all newspapers, particularly since March

2019, when coverage of all newspapers gradually increased. For example, since February 2019, the effects of drought and water scarcity have been covered in both countries following their impacts on agriculture. Consequently, the newspapers’ coverage trends on climate change portrayed how the impact of the climate crisis was felt in southern Africa, as predicted in the 2018 IPCC report. These include predictions of the water crisis and its effect on agriculture and wildlife. Because the effects of water scarcity are rapidly increasing, they may have influenced climate coverage trends in the next six months. Similar trends can be seen in climate-affected countries such as India, Mexico, and China, according to Schmidt *et al.* (2013).

Climate change thematic frames

According to the research of Chand (2017), the way news is framed, as well as the “strength and repetition of the frame, the competitive environment, and individual motivations”, all have an impact on individual thinking. As a result, what the media leaves out or emphasises in their articles, whether intentionally or unintentionally, influences how readers perceive climate change. In this study, all newspaper outlets emphasised primarily the public opinion (civil/protest) thematic frame. The climate crisis news was frequently framed based on

organisations, experts, and activists' ideas on the impacts and measures to compact global heating. The theme was seen in *The Namibian* and *Sunday Times*. For example, *Sunday Times* published an article about experts claiming that flooding of houses in KwaZulu-Natal and the Eastern Cape was caused by poor planning rather than climate change. Although the articles did not explicitly state that climate change does not exist, the framing of such articles may lead readers to believe that extreme events are caused by government planning failures rather than climate change, encouraging readers to shift blame to government planning and policies. This is not either/or, it could be both climate change and government planning. In a different case, articles published by *The Namibian* on water scarcity mostly emphasised agricultural activities. Consequently, this portrays to the reader that water availability has mostly impacted the agriculture sector in Namibia. Overall, South African newspapers practised more diversified thematic frames compared to newspapers in Namibia. This might be because reporters in Namibia lack the skills to employ thematic frames.

Climate change linguistic repertoires

The most dominant climate repertoire in Namibia is small actions, followed by alarmists, whereas South Africa was dominated by alarmists, followed by small actions, especially when discussing the effects of global warming on water scarcity, economics, and agriculture. According to Ereaud & Segnit (2006 p. 12), the small actions and alarmists repertoires are direct contrapositions that are commonly placed alongside each other. The consequences of climate change have been described using adjectives like no tomorrow, extinction, and heatwaves. Adjectives like changing diet, emission reductions, and green bond, on the other hand, were frequently used to describe climate change small actions. Even though alarmist reporting is a way to warn the public and decision-makers on the impacts of global warming, alarmist repertoire may instil in readers a sense of doom, causing them to freeze rather than act. Overall, the causes and effects of climate change are discussed alarmingly while reporting mitigations and measures as small actions to encourage people's actions toward compacting and adapting to climate change. The current effect of climate change in the two countries may explain the popularity of small actions and alarmist actions in southern Africa. However, bearing in mind that the two countries are in the same geographic area one might have expected to see significant similarities. More differences might emerge if the sample area was diversified to include other countries with different geographic and media systems such as other sub-Saharan countries.

Overview of climate change news sources and authors

Most of the climate change articles are imported from other media agencies without further interpretation, showing an image that authors do not have the skills nor the confidence to develop their climate change reports. This also indicates that the agendas set by the newspapers were focused on the external concern of climate change outside the region. The over-dependence on foreign news on climate change may limit the opportunities for participation in combating climate change at a local level. The case is popular in newspapers in Namibia. According to Tagbo (2010), African newspapers tend to use foreign reports, without developing their own story on the issue. As a result, most African countries rely on international reports to keep climate change coverage alive. Furthermore, Batta *et al.* (2013) stated that African news media frequently report on climate change without an African context because most of the news is foreign-sourced. A concern of unqualified climate change is raised, and climate change is still poorly reported by the newsprint media. If international climate news in African newspapers is not accompanied by local context, especially when the news is relevant to local climate impacts, the role of newspapers in combating global warming is ineffective. National or regional news may entice the reader's interest. Moerdyk (2019) stated that readers are likely to opt for newspapers that report local news by local authors rather than international news from authors or experts they do not know.

CONCLUSION AND RECOMMENDATIONS

This study's findings sparked further research into what barriers impede the progress of climate change reporting in southern Africa. More research can be done to investigate how people use thematic frames and climate linguistic repertoires in informal settings like group discussions or interviews. Coverage and the communication of climate change issues in southern Africa can be improved if journalists change their reporting styles. A balance must be struck between cautioning journalists against alarmist reporting and not diminishing the seriousness of climate change as a global crisis. Small actions encourage people to act, so a balance can be achieved by using fewer alarmist adjectives accompanied by pragmatic adjectives. Moreover, environmental journalism training for journalists and editors, as well as increased collaboration with climate change organisations, could help achieve good climate change reporting. Furthermore, newspapers should broaden their local report sourcing to include a local context, which they can do by working with experts, farmers, and non-governmental organisations. News media in southern Africa should follow the advice from *The Guardian* newspaper article by its

environmental editor Carrington (2019) on keywords changes when reporting climate change. This ranges from interchanging keywords such as climate change to climate crisis or global warming to global heating. The lack of newspaper archives proved to be an issue in achieving better analysis in this study. Therefore, newspaper companies, particularly the Cape Argus and Sunday Times, should create news outlet archives that can be used in future studies.

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